(No Model.)

B. J. DOWNS.

MACHINE FOR LINING JOURNAL BOXES.

No. 398,588. Patented Feb. 26, 1889.

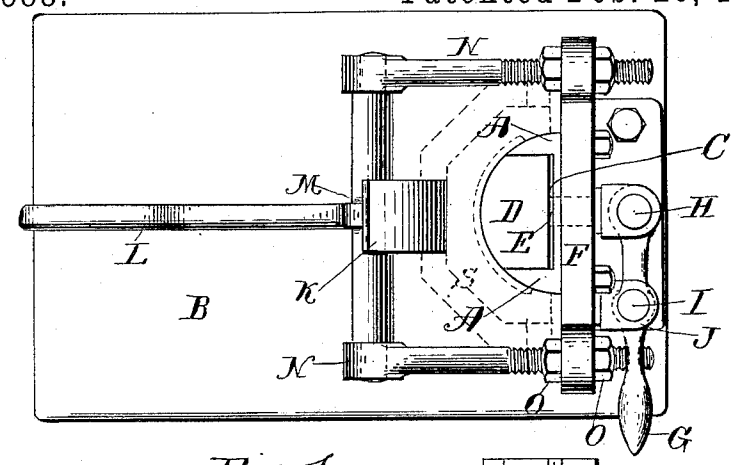


Fig. 1.

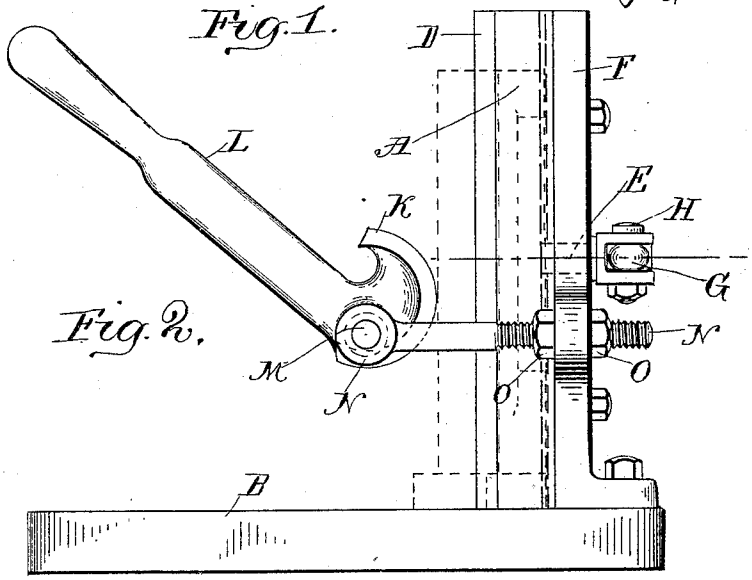


Fig. 2.

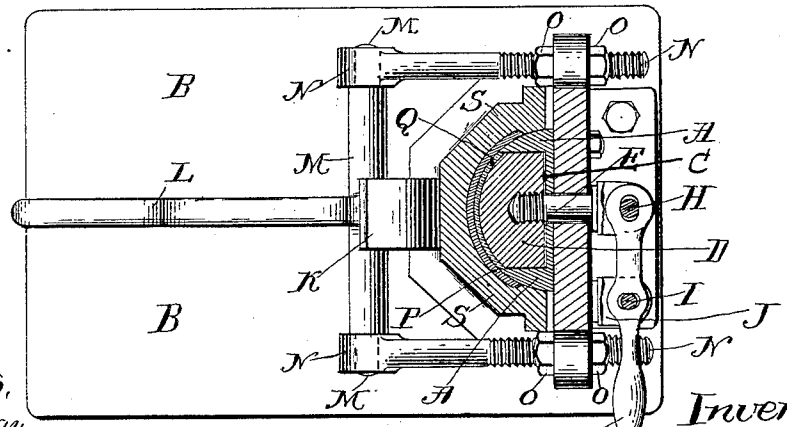


Fig. 3.

Witnesses,
Thos. W. Holden.
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UNITED STATES PATENT OFFICE.

BENJAMIN J. DOWNS, OF SOMERVILLE, MASSACHUSETTS.

MACHINE FOR LINING JOURNAL-BOXES.

SPECIFICATION forming part of Letters Patent No. 398,588, dated February 26, 1889.

Application filed September 25, 1888. Serial No. 286,368. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN J. DOWNS, of Somerville, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Machines for Lining Journal-Boxes, of which the following, taken in connection with the accompanying drawings, is a specification.

The object of this invention is to provide a simple, compact, and efficient machine for use in applying linings of soft metal to the inner faces of metallic journal-boxes, such as are used on railway-car axles and the like.

It is common to make such boxes in the form of concave shells of comparatively hard composition metal and to line the inner face thereof with an alloy of Babbitt metal having along its longitudinal center a raised band or strip of softer metal—such as lead—in which the journal may readily embed itself. My machine is adapted to the rapid application of these successive linings to such shells, the various parts of the mechanism being permanently connected together in an organized machine as distinguished from the detachable parts of apparatus heretofore used.

My invention consists in an upright mandrel mounted on a suitable base and having in its face a deep vertical recess with a laterally-adjustable tongue or block of less dimensions than said recess located permanently thereon, in combination with a pivoted lever or like means for moving said block laterally in said recess.

It also consists in said devices, in combination with clamping means connected thereto for holding the shell securely, and in the further combinations of devices specified in the appended claims.

In the drawings, Figure 1 is a plan, and Fig. 2 a side elevation, of my improved machine. Fig. 3 is a horizontal section on line *x x* of Fig. 2.

The mandrel A is fixed upon the base B, and has in its working-face a deep vertical recess, C, within which is a tongue or block, D, of less dimensions than said recess, so that it may be moved laterally therein to a limited extent. The mandrel is cylindrical or semi-cylindrical, and the outer face of the block D is a segment thereof, while its sides are straight parallel faces fitting snugly to the side walls of the recess C. In rear of the block D the recess extends far enough for the desired movement of the block.

The means shown for moving the tongue or block laterally in the recess consist in a stem, E, extending from the block rearwardly through the mandrel and through the standard F, to which the mandrel is bolted, and a lever, G, connected to the end of said stem by a pin, H, and pivoted at I to a projection, J, on said standard. The movement of the free end of the lever in one direction thus carries the block D correspondingly in the opposite direction and brings its convex face into or out of coincidence with the working-face of the mandrel.

The shell S to be lined is held against this working-face by a suitable clamp connected to the mandrel, standard, or base. I have provided a convenient adjustable device for this purpose, consisting of a cam, K, having an operating-handle, L, the prolonged axes M of which work in the eyes of eyebolts N, which pass loosely through sockets at each side of the standard and are adjusted by nuts O O, so that when desired the axis of the cam may be varied in its distance from the shell.

The practical operation of my machine will be readily understood. The shell S to be lined is placed on end upon the base in front of the mandrel, against which it is pressed by the cam K, the raising of its handle L giving a frictional contact and downward pressure of the shell upon the base. The vertical edges of the shell bear against the sides of the mandrel, leaving a space between the concavity of the one and the convexity of the other, the block D being in its advanced position, where its curved front face forms part of the semi-cylindrical mandrel. The molten Babbitt-metal or other lining, P, is then poured into this space, where it is speedily set or hardened. Then the lever G is drawn forward to move back the block D into the rear of the recess and to leave a space between the curved front of the block and the inner face of the lined shell. Into this space the molten lead is poured to form along the center of the Babbitt lining a projecting strip, Q, of this softer metal.

I claim as my invention—

1. The mandrel A, having in its working-face a deep vertical recess, C, and a laterally-movable tongue or block, D, of less depth than and located permanently in said recess, in combination with the lever G and stem E or equivalent means for giving lateral movement to said block, substantially as and for the purpose set forth.

2. The vertically-recessed mandrel A C, the tongue or block D, of less depth than the recess in the mandrel and permanently located therein, and means, substantially as described, for giving the block lateral movement in such recess, in combination with suitable clamping mechanism for holding the shell firmly, for the purpose set forth.

3. The mandrel A, fixed to the base B and standard F, and having the recess C in its front face and the smaller laterally-moving block, D, therein, in combination with the pivoted lever G, connected to the stem E for lateral adjustment of said block, and the cam K, pivotally connected to said standard, substantially as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 21st day of September, A. D. 1888.

BENJAMIN J. DOWNS.

Witnesses:
A. H. SPENCER,
ELIHU G. LOOMIS.